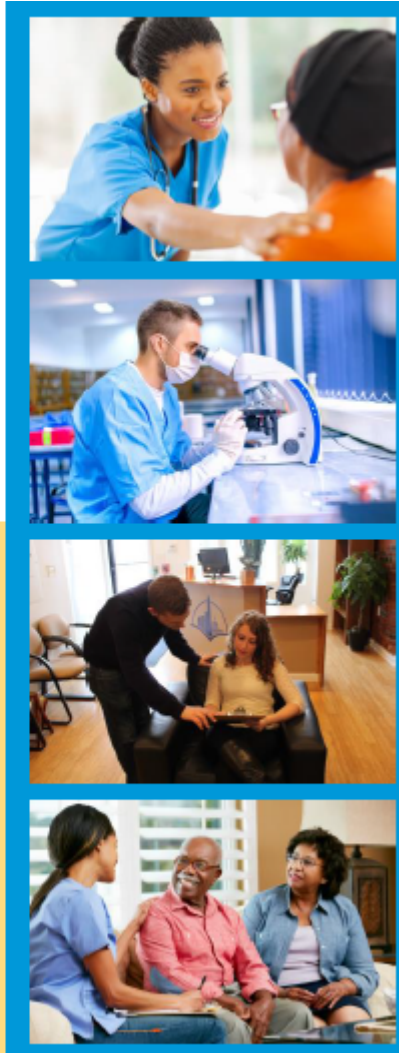




COLUMBIA  
C A R E



## Columbia Care, Inc.

Rosemary Mazanet M.D., Ph.D.  
Chief Scientific Officer  
Scientific Advisory Board Chair  
Columbia Care, New York, NY

[www.col-care.com](http://www.col-care.com)

# Dubious and dangerous CBD products on the market

**JAMA**  
The Journal of the American Medical Association

## Cannabinoid Dose and Label Accuracy in Edible Medical Cannabis Products

Ryan Vandrey, PhD<sup>1</sup>; Jeffrey C. Raber, PhD<sup>2</sup>; Mark E. Raber<sup>2</sup>; et al

As the use of cannabis (marijuana) for medical purposes has expanded, a variety of edible products for oral consumption has been developed. An estimated 16% to 50% of edible products. <sup>1,2</sup> Even though smoking, difficult dose titrating the importance of accu-

Greater than 50% of products evaluated had significantly less cannabinoid content than labeled

JAMA June 23/30, 2015 Volume 313, Number 24

Regulation and quality assurance for edible product cannabinoid content and labeling are generally lacking. We investigated the label accuracy of edible cannabis products.

### Methods

An Internet directory of dispensaries, with a menu of products available at each, was used to determine purchase locations in San Francisco, California, Los Angeles, California, and Seattle, Washington. A list of dispensaries was generated, with

## Labeling Accuracy of Cannabidiol Extracts Sold Online

Marcel O. Bonn-Miller, PhD<sup>1</sup>; Mallory J. E. Loflin, PhD<sup>2</sup>; Brian F. Thomas, PhD<sup>3</sup>; et al

### Discussion

Among CBD products found, consistent with contained less CBD than response. The overlabel levels that triggered Food and Drug Administration than 1% of the label federal and state regulations these consumer products ther have abuse liability

Majority of cannabidiol extracts sold online are labeled incorrectly

- 31% of CBD extracts were labeled correctly
- 69% of CBD extracts were labeled incorrectly
  - 43% were under labeled
  - 26% were over labeled

JAMA November 7, 2017 Volume 318, Number 17

ever, the THC content observed may be sufficient to produce intoxication or impairment, especially among children. <sup>6</sup> Although the exclusive procurement of products online is a study limitation given the frequently changing online market-

# Low barriers to entry lead to continued dangerous "CBD" products, many imported.

Forensic Science International  
Volume 294, January 2019, Pages e25-e27

Short Communication

The unexpected identification of the cannabimimetic, 5F-ADB, and dextromethorphan in commercially available cannabidiol e-liquids

Justin L. Poklis <sup>a</sup> ✉ ... Michelle R. Peace <sup>b</sup>

*"The finding of both 5F-ADB and DXM illustrates the potential **quality control issues** that can occur in an unregulated industry"*

**The Inquirer**  
DAILY NEWS philly.com

## Toxic chemicals found in popular CBD products

by Sam Wood, Posted: November 15, 2018

*A popular line of cannabis-derived CBD products was found to be **tainted with a dangerous synthetic cannabinoid** known to cause anxiety, agitation, and psychosis.*

AL.COM

## Alabama health officials warn of CBD oil dangers

Posted Mar 1, 2019

Alabama health officials are warning about the dangers of **untested, unregulated and potentially dangerous** CBD oil.



# The lack of Federal Standards endangers US citizens; All CBD imported into in EU is GMP

Source: CannaSafe Laboratories

BUSINESS INSIDER

## CBD LABELS VS LAB RESULTS

A California company tested 20 popular CBD products and found “insanely high levels of dangerous chemicals and misleading labels”

PRODUCT	CLAIM (mg)	RESULTS (mg)	% of CBD IN RELATION TO CLAIM
CBD Hemp Additive	300	128	42.7%
CBD Milk Chocolate Bar	120	91	75.8%
CBD Oil Cotton Candy	100	89.1	89.1%
Hemp Oil Concentrate Clearomizer	100	4	4%
CBD Oil	100	3.6	3.6%
Complete Relaxation Syrup	100	0	0%
CBD Gummies	75	1.1	1.5%
CBD+ Vape Additive	60	3.7	6.2%
Premium CBD E-liquid	50	7.4	14.8%
Daily Dose syringe	33	29.7	90%
Raw Honey Hemp	20	8.4	42%
CBD Cold Brew Coffee	20	3.9	19.5%
Peach Ginger	15	15	100%
CBD Softgels	15	13.1	87.3%
CBD Alkaline Water	15	0	0%

Notes: The tests were conducted blindly. The identity of the manufacturers weren't reported.



# Moving forward

- Humans have consumed CBD containing hemp products over thousands of years for health and wellness reasons
- Recent commercialization has neglected safety concerns.

## **FDA guidance on “allowed” CBD products should protect safety:**

- GMP required to ensure manufacturing safety, quality, consistency
- Standards for the levels of CBD in food, dietary supplements
- Labeling requirements, including AEs for formulations (oil) and warnings for special populations (children, pregnant women, etc.)
- Restrictions on disease claims c/w supplements